The FARMER AND MECHANIC

Established 1877 RALEIGH, N. C., MAY 2, 1911 Vol. 35, No. 33

State Library

THE HOUSE FLY SPREADS DISEASE

Every Precaution Should be Taken to Prevent the Breeding of This Common Household Pest

The fly of world-wide distribution is perhaps the one most important insect pest known to man. As a direct pest it is a source of great annoyance, necessitating with the mosquito, an estimated annual expenditure in the United States alone of more than $10,000,000 for the screenings of habitations. But the importance of this fly as an annoying pest is insignificant compared with its importance as a menace to public health through the dissemination of disease germs. In the maggot stage the fly thrives in all kinds of filth and as adult it feeds upon similar materials, thus ingesting the deadly germs of enteric diseases, such as typhoid fever, cholera, cholera infantum, the tropical dysentery, to deposit them hours, or even days, later in fly specks, often on various articles of food; or these microscopic organisms may be collected on the feet of the fly and later adhere to some food supply over which the fly may crawl in its travels.

Typhoid fever is one of the most serious ailments to which man is subject. There are about 250,000 cases of this disease annually in America about 35,000 proving fatal. Sixty per cent of the deaths in the Franco-Prussian war and 30 per cent of the deaths in the Boer war were caused by this disease. One investigator has found the bacilli of typhoid fever in the dejecta of house flies twenty-three days after feeding, while another records the presence of this baccillus in flies during the period of two weeks. The possibilities of transmitting typhoid fever are appalling to the layman, when it is remembered that the germs of this disease may be in the system several weeks before diagnosis is possible, continue in numbers six or eight weeks after apparent recovery, and in exceptional cases may be discharged from the system during a period of several years. There are authentic records of a patient distributing these germs for seventeen years and being the incipient cause of 13 cases during fourteen years of that period. Other diseases conveyed by this fly are tuberculosis, anthrax, plague, trachoma, septicemia, erysipelas, leprosy, yaws, and perhaps smallpox.

In an investigation of the sources of bacteria in milk, the Connecticut Experiment Station studied the bacterial population of 414 flies and concludes that the domestic fly is a dangerous enemy to human health.

The numbers of bacteria on a single fly may range all the way from 550 to 6,600,000. Early in the fly season the numbers of bacteria on flies are comparatively small, while later the numbers are comparatively very large. The place where flies live also determines largely the number that they carry. The average for the 414 flies was about one and one-fourth millions bacteria on each. It hardly seems possible for so small a bit of life to carry so large a number of organisms. As files cannot bite, they do not inoculate individuals with disease as do some mosquitoes, but they act as mechanical carriers conveying the germs either upon their bodies, or within the alimentary canal, to be deposited with the excrement. The fly then is not the "cause," but the "conveyer" of disease.

The fly breeds chiefly in fresh horse manure, and shows a decided preference for that which is wet and sloppy, especially if it is in a state of fermentation. But it will also breed in human excrement, barnyard refuse of all kinds, dirty bedding of piggeries, decaying animal and vegetable substances, garbage, sputum in spittoons, or other filth, provided there is sufficient amount of moisture and moderately high temperature. A single refuse heap will supply a whole neighborhood with flies. It is not uncommon to find a manure heap literally alive with wriggling magots.

The adult flies feed greedily upon all kinds of filth and offensive offal, attack sores on all kinds of animals, swarm around sputum and excreta of persons afflicted with loathsome and dangerous diseases, and then, whenever a chance offers, crawl eagerly over food, oftentimes leaving behind a trail of sickness and death.

As palliative measures,—screen all doors and windows of dwellings, cover all milk, fruit and other food with netting and use poison and sticky fly paper liberally. To drive them from the house, darken all windows, open a door, and then burn some pyrethrum powder, or evaporate a teaspoonful of carbolic acid over a lamp.

Permanent preventive measures are, however, far less expensive in the end, and much more effective than the use of temporary methods. Where horses are stabled, a closet to receive manure can be built at small cost. Such a closet must be kept closed. The effectiveness of fly-tight manure receptacles has been demonstrated beyond question.

STARTING FLOWER SEEDS.

Almost all flower seeds germiate more quickly if soaked in warm water for a few hours before planting. In some instances this is almost a necessity.

The advantage of treating sweet peas this way is most marked. Cypress vine will stand quite warm water poured over the seeds 12 hours before planting.

Canna seeds and those of the other large, hard-shelled sorts sometimes require careful filing to break the tough, outer cover, but extreme care must be taken not to injure the germ.

The finer greenhouse seeds should be merely sprinkled on the surface of very fine soil and kept continually moist. During germination glass should be kept over the pots. After the plants have come up this should be removed to admit air.

Extreme care must be taken of the tiny seedlings, for if allowed to get dry they will almost surely die and if kept too moist they incline to "damp off."

The sowing of fern spores on a brick covered with just a sprinkling of earth is an interesting study to the nature lover, the necessary water being supplied by keeping the brick in a dish of water.

Most of the greenhouse plants and similar delicate ones are scarcely profitable for the amateur to raise as a source of experimental study, though geraniums and a number of the larger seeds are as easily managed as a pansy or an aster and one can get a good variety at a small cost.

As a rule the seed should be planted twice its own depth and in the case of small seeds it is essential to have the ground finely pulverized.—B. L. Putnam.

FIVE POINTS OF A DAIRY COW.

The five points to be observed in selecting a good dairy cow was the subject of a recent address made by O. C. Gregg at the St. John's Farmers' Institute.

First. Large body and especially middle piece, indicating a capacity for eating and digesting a lot of food.

Second. Thinly fleshed backbone and especially back of the shoulders. This indicates that the food is not made into flesh.

Third. Large udder, as it is here that the milk is made.

Fourth. Large milk wells. It is through these that the blood returns to the heart from the udder. If they are large it indicates that a large amount of blood passes through the udder.

Fifth. Large clear eyes. This indicates good nerves and they drive the organs of digestion and milk making.

He said that a sixth point could be added—the scales and the Babcock test.

NOTES ON HOG RAISING

If you are quite sure alfalfa will not grow on your land try Essex rape. It makes fine hog pasture—some farmers even going so far as to say that it beats clover, which, of course, it does not.

A lousy pig is a sure sign of a poor farmer. Once thoroughly infested the only way to get rid of the vermin is to dip the pig with some good disinfectant.

In dipping pigs great care must be exercised to cover every part of his body from tail to snout. If a patch as big as the thumb nail is left untouched it may contain the nucleus of a new crop.

Many farmers use a boar of different breed of that of their sows to produce a cross. Sometimes this is good practice for the first cross but the sow from such a cross should never be bred.

PLANT BAD SEED--EXPECT POOR CROP

Testing the Seed is Absolutely Necessary if Improvement in the Corn Crop is Desired

It is now too late to talk about how this spring's seed-corn should have been saved, but taking the seed we have we may select the best of it in this way. The corn should be placed on tables in a light room and studied on a bright day. Never attempt to pick out young seed-corn except in the best light. Examine the ears carefully as to weight and color.

Take some of the grains from each ear and notice the shape and the depth. Go back and forth over the ears until you know each one.

Reject the poorer corn and work the best ears over to one end of the table. Save only the best for planting; or if quite a little is needed, make two or more grades of corn and plant in different parts of the field.

The qualities that should be considered in the selection of corn are type-of-bred characteristics, general qualities regardless of variety or type, maturity and seed condition, and composition.

A familiarity with these points may be had by going over the seed-corn several times and studying one quality at a time. Notice how great a variation may be found in each quality and decide what types should be used as a practical standard.

As a means of selecting the best seed-corn, doubtless the adaptability, maturity, seed condition, amount of grain and uniformity of grain are among the important qualities, but the exact relative importance of each has not been determined.

As a matter of fact, the importance of the several qualities varies in the comparison of different ears, the seed conditions may be practically the only factor in deciding, since one would show a strong germination and the other fail to germinate; while in comparing two other ears the seed conditions may not be a deciding factor at all, since each germinates equally well.

For the use of the beginner in picking out seed-corn, perhaps the best rules that could be given are as follows:

Select ears of medium size for your locality. The small-eared types which do not utilize the entire growing season will not produce a maximum yield. The large-eared types which are so late that they cannot mature a hard, solid ear also fail of maximum production and yield a product which is inferior both for the market and home consumption.

Select ears that are very heavy for their size. The yield seems to be more closely associated with weight of ear than any other quality.

Select ears of bright, healthy color. Ears of a dull or pale color are usually immature or have been exposed to the weather; their seed condition is apt to be poor and the vitality of the plants low.

Select ears with grains of uniform size and shape. Aside from its indication of trueness to type, uniformity of grain is of considerable importance in getting an even distribution of seed and a uniform stand.

To test seed corn for germination is essential to modern methods of corn-production. The poor stand of corn is largely responsible for the low average yield, and it is impossible to get a good stand without good, strong seed.

No one can identify and discard all the ears of poor germinating qualities without the aid of a germinating test.

A hand-made germinator which has proven very satisfactory may be made of a box 2x20x30 inches inside measure. Fill nearly full of moist sand and mark into squares two inches across by a cord which is passed around the nails driven in the sides of the box.

The checks in the first row, beginning at one end are numbered from 1 to 10, the second 11 to 20, etc. After placing six grains from each ear in their respective checks, another half inch of moist sand is used to cover the corn. If in any check all of the grains do not grow, the corresponding ear should be discarded.

The seed corn should be further prepared for planting by shelling off the butt and tip grains; by taking out all other irregular-shaped grains; by hand shelling, with careful observation to discover any ears which have undesirable grains. In making tests, when a tray has been planted it must be thoroughly watered and kept in a warm room where it will not be upset or disturbed until the test is finished. The watering is best done by laying a small piece of paper flat on the tray and pouring the water carefully on this until the sand is fully saturated.

The planted tray should not be allowed to dry out until the young corn plants are an inch or two above the sand. Sometimes the corn roots are stiff enough to push the kernels up out of the sand. When this happens they should be covered again by sprinkling some damp sand on them.

This method of germinating seed-corn has been carefully tested for a long term of years. It is one of the best and simplest because the necessary materials can be easily procured, the germinating seed does not need to be uncovered or disturbed during the test, and the conditions are artificial only to the extent of treating all kernels alike, which is necessary to secure reliable results. Testing in soil is much the most natural method of determining the probabilities of growth in the field.

Another very important thing to consider in corn planting is the depth of the seed. Don't plant too deep.

DIFFERENT RATIONS FOR DIFFERENT SEASONS.

In the summer season when the animals are allowed the range of the pasture they can, in a measure at least, balance their own rations.

Some feeders aim at a maintenance ration only during the winter season and depend for a profit during the summer. Others feed for growth or production during the winter.

In the maintenance ration there is no profit or no gain during the winter and the feed is consumed in keeping the animal alive.

If a feed is used that contains an excess of carbonaceous matter the excess practically is wasted. Upon the other hand if an excess of protein is contained in the feed this excess is wasted.

Generally speaking, the feeds produced on the farm contain an excess of carbonaceous matter and it becomes necessary to use some of the concentrates to balance.

Corn has a nutritive ratio of 1 to 9, wheat and oats have a nutritive ratio of near 1 to 6, buckwheat has a nutritive ratio of 1 to 7.

A well balanced ration for a horse is near 1 to 8, for milch cows 1 to 5, for a hog 1 to 5. Then the ash or mineral contents of a feed should have some consideration. An animal must have some mineral matter in its ration in order to grow and maintain a strong frame-work.

Corn is very deficient in mineral matter. Digester tankage is very rich in both protein and mineral matter and it is one of our best materials for balancing a hog ration.

Wheat bran, cotton-seed meal and oil meal, all are much richer in both protein and mineral matter than the whole grain. The protein and mineral matter contained in them make these feed stuffs valuable for both milch cows and young growing animals.—A. J. Legg.

SUGGESTIONS THAT MAY HELP.

Let the grass get a good start before turning the stock on it.

Horses that are clipped, dry off fast at night. This is better than having them stand around in a heavy wet coat.

If there are signs of worms in your hogs, feed concentrated lye, 1-2 teaspoonful to each animal well mixed in slop or soft feed.

In the fattening pen give the pigs all they will readily clean up, but no more.

Bran and meat meal help to supply the young sows with muscle and bone.

Do not use iron or steel vessels for sulphate or Bordeaux? Not only will these be corroded, but the chemical action resulting from continued contact may injuriously affect the mixture. Tinned or galvanized pails are unsafe, as the zinc or tin coating is apt to be imperfect. Use only wood, copper, earthenware or glass.

The horse can be made to masticate his food by putting finely cut hay with the grain. A ration of half prairie-grass hay, and half alfalfa will give almost as good gains as a ration of alfalfa alone.